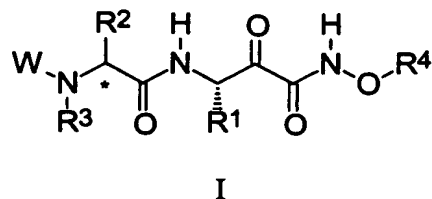


## What is claimed is:

1. A compound having of the Formula I:



5 wherein:

W is A-B-D;

A is aryl(CH<sub>2</sub>)<sub>n</sub>, heteroaryl(CH<sub>2</sub>)<sub>n</sub>, alkyl having from one to about 14 carbons, alkenyl having from two to about 14 carbons, or cycloalkyl having from 3 to about 10 carbons, said A group being optionally substituted with one or more J groups;

10 B is a bond or CO, SO, SO<sub>2</sub>, OCO, NR<sup>5</sup>CO, NR<sup>5</sup>SO<sub>2</sub>, or NR<sup>5</sup>SO;

D is a bond, an amino acid residue, or a peptide composed of 2 to about 5 amino acid residues, said amino acid residue(s) being independently defined by the formula

-NH-**\*\***CH(R<sup>6</sup>)-CO-, in which **\*\*** denotes the α carbon of an α-amino acid residue

15 possessing, when R<sup>6</sup> is other than hydrogen, the D- configuration, the L- configuration, or a mixture of D- and L-;

n is an integer from 0 to about 6;

R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are, independently, hydrogen, alkyl having from one to about 14 carbons, or cycloalkyl having from 3 to about 10 carbons, said alkyl, and  
20 cycloalkyl groups being optionally substituted with one or more J groups; and

J is halogen, lower alkyl, aryl, heteroaryl, haloaryl, amino optionally substituted with one to three aryl or lower alkyl groups, guanidino, alkoxycarbonyl, amido, lower alkylamido, sulfonamido, lower alkyl sulfonamido, lower alkylsulfonyl, lower alkylsulfoxy, lower alkylthio, lower alkoxy, aryloxy, arylalkyloxy, hydroxy, carboxy,  
25 cyano, or nitro; and

\* denotes the  $\alpha$  carbon of an  $\alpha$ -amino acid residue possessing, when  $R^2$  is other than hydrogen, the D- configuration, the L- configuration, or a mixture of the D- and L- configurations.

2. The compound of claim 1 wherein  $R^1$  is alkyl or alkyl substituted  
5 with J, wherein J is lower alkoxy.
3. The compound of claim 2 wherein  $R^1$  is benzyl, methoxymethyl, or butyl.
4. The compound of claim 1 wherein  $R^2$  is alkyl or alkyl substituted with J, wherein J is arylalkyloxy or aryl.
- 10 5. The compound of claim 2 wherein  $R^2$  is isobutyl or benzyloxymethyl.
6. The compound of claim 1 wherein  $R^3$  is H.
7. The compound of claim 1 wherein  $R^4$  is alkyl, alkyl substituted with J, cycloalkyl, or cycloalkyl substituted with J wherein J is aryl, haloaryl, alkyl or  
15 heteroaryl.
8. The compound of claim 7 wherein  $R^4$  is methyl, ethyl, propyl, butyl, benzyl, (pentafluorophenyl)methyl, tert-butyl, or 4-methylcyclohexyl.
9. The compound of claim 1 wherein W is benzyloxycarbonyl, methanesulfonyl, benzoyl, tert-butoxycarbonyl, or benzyloxycarbonyl-leucyl.
- 20 10. The compound of claim 1 wherein  $R^3$  is H, and  $R^1$  is alkyl or alkyl substituted with J, wherein J is lower alkoxy.
11. The compound of claim 1 wherein  $R^3$  is H, and  $R^2$  is alkyl or alkyl substituted with J wherein J is arylalkyloxy or aryl.
12. The compound of claim 1 wherein  $R^3$  is H, and  $R^4$  is alkyl, alkyl  
25 substituted with J, cycloalkyl, or cycloalkyl substituted with J wherein J is aryl, alkyl, haloaryl, or heteroaryl.
13. The compound of claim 1 wherein  $R^3$  is H,  $R^1$  is alkyl or alkyl substituted with J wherein J is lower alkoxy, and  $R^2$  is alkyl or alkyl substituted with J

wherein J is arylalkyloxy or aryl.

14. The compound of claim 1 wherein R<sup>3</sup> is H, R<sup>1</sup> is alkyl or alkyl substituted with J, wherein J is lower alkoxy, and R<sup>4</sup> is alkyl, alkyl substituted with J, cycloalkyl, or cycloalkyl substituted with J wherein J is aryl, haloaryl, alkyl or heteroaryl.

5 15. The compound of claim 1 wherein R<sup>3</sup> is H, R<sup>1</sup> is alkyl or alkyl substituted with J wherein J is lower alkoxy, R<sup>4</sup> is alkyl, alkyl substituted with J, cycloalkyl, or cycloalkyl substituted with J wherein J is aryl, haloaryl, alkyl or heteroaryl, and R<sup>2</sup> is alkyl or alkyl substituted with J wherein J is arylalkyloxy or aryl.

16. The compound of claim 1 wherein R<sup>1</sup> is benzyl, methoxymethyl, or  
10 butyl; R<sup>2</sup> is isobutyl or benzyloxymethyl; R<sup>3</sup> is hydrogen; R<sup>4</sup> is methyl, ethyl, propyl, butyl, benzyl, (pentafluorophenyl)methyl, tert-butyl, or 4-methylcyclohexyl; and W is benzyloxycarbonyl, methanesulfonyl, benzoyl, tert-butoxycarbonyl, or benzyloxycarbonyl-leucyl.

17. The compound of claim 1 wherein R<sup>1</sup> is benzyl; R<sup>2</sup> is isobutyl; \*  
15 denotes the  $\alpha$  carbon of an  $\alpha$ -amino acid residue possessing the L-configuration; R<sup>3</sup> is hydrogen; R<sup>4</sup> is methyl, ethyl, propyl, butyl, benzyl, (pentafluorophenyl)methyl, tert-butyl, or 4-methylcyclohexyl; and W is benzyloxycarbonyl or benzyloxycarbonyl-leucyl.

18. The compound of claim 1 wherein R<sup>1</sup> is benzyl; R<sup>2</sup> is benzyloxymethyl;  
20 \* denotes the  $\alpha$  carbon of an  $\alpha$ -amino acid residue possessing the D-configuration; R<sup>3</sup> is hydrogen; R<sup>4</sup> is methyl, ethyl, or benzyl; and W is methanesulfonyl.

19. A compound as described in Table 1, *supra*.

20. A composition for inhibiting a protease selected from the group consisting of serine proteases and cysteine proteases comprising a compound of claim 1.

25 21. The composition of claim 20 wherein said compound is selected from the group consisting of compounds described in Table 1, *supra*

22. A method for inhibiting a protease comprising contacting a protease selected from the group consisting of serine proteases and cysteine proteases with an

inhibitory amount of a compound of claim 1.

23. The method of claim 22 wherein said compound is selected from the group consisting of compounds described in Table 1, *supra*.

24. A method for inhibiting a protease comprising contacting a protease  
5 selected from the group consisting of serine proteases and cysteine proteases with an inhibitory amount of a composition comprising a compound of claim 1.

25. The method of claim 24 wherein said compound is selected from the group consisting of compounds described in Table 1, *supra*.

26. A pharmaceutical composition comprising a compound of claim 1  
10 and a pharmaceutically acceptable carrier.

27. A composition for the treatment of a disorder selected from the group consisting of neurodegeneration, stroke, Alzheimer's, amyotrophy, motor neuron damage, acute central nervous system injury, muscular dystrophy, bone resorption, platelet aggregation, cataracts and inflammation, comprising a compound of claim 1 and a  
15 pharmaceutically effective carrier.

28. A method for the treatment of a disorder selected from the group consisting of neurodegeneration, stroke, Alzheimer's, amyotrophy, motor neuron damage, acute central nervous system injury, muscular dystrophy, bone resorption, platelet aggregation, cataracts and inflammation, comprising administering to a subject in need of  
20 such treatment an effective amount of a compound of claim 1.